

WAPA Update

**Colorado Association of Municipal Utilities
Board Meeting
July 16, 2021**

RMR Update

Dave Neumayer
VP of Power Marketing
Rocky Mountain Region

Agenda

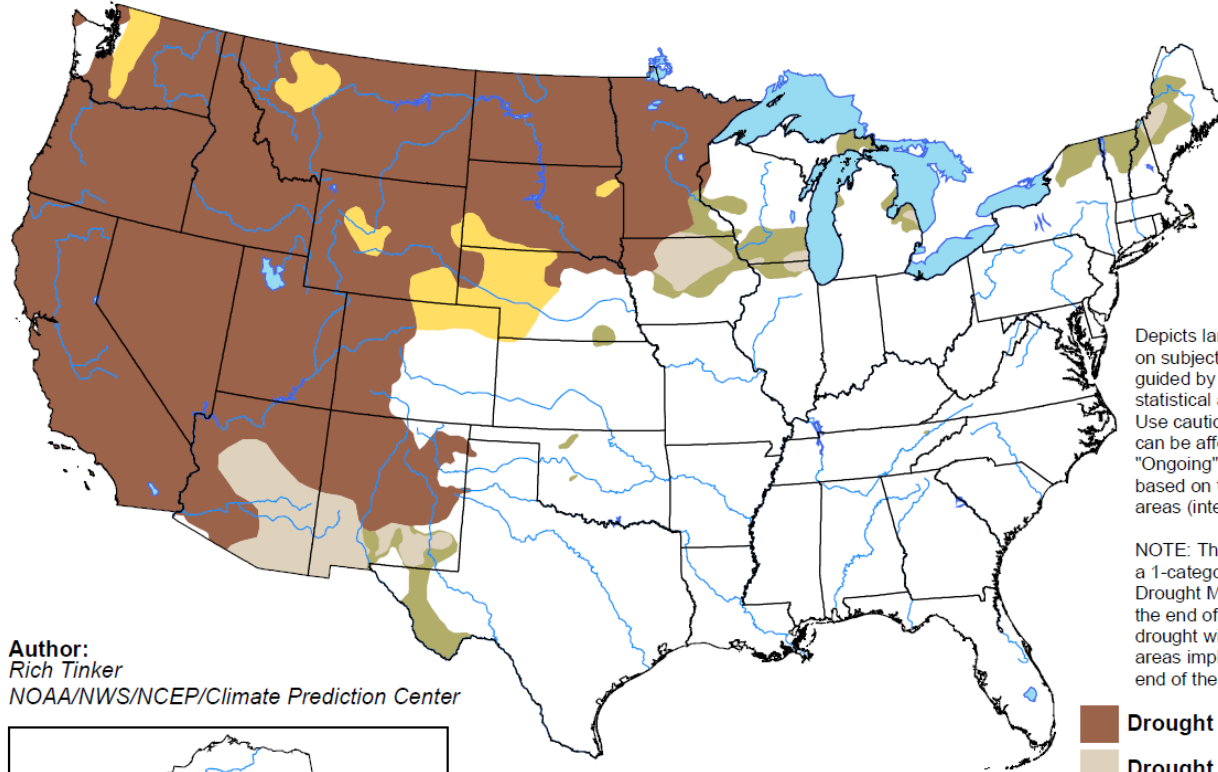
- Hydrology and Generation Outlook
- Loveland Area Projects (LAP) Marketing Plan Activities
- LAP Rates Outlook
- Markets Update
 - SPP WEIS Update
 - RTO Evaluation Status
- Personnel Updates

PS-ED & LAP Hydro/Gen Outlook

Drought Update

U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

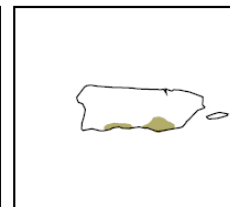
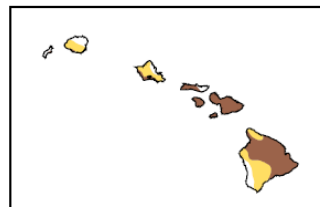
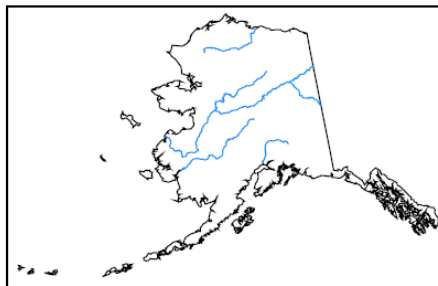
Valid for July 15 - October 31, 2021
Released July 15



Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

Author:
Rich Tinker
NOAA/NWS/NCEP/Climate Prediction Center

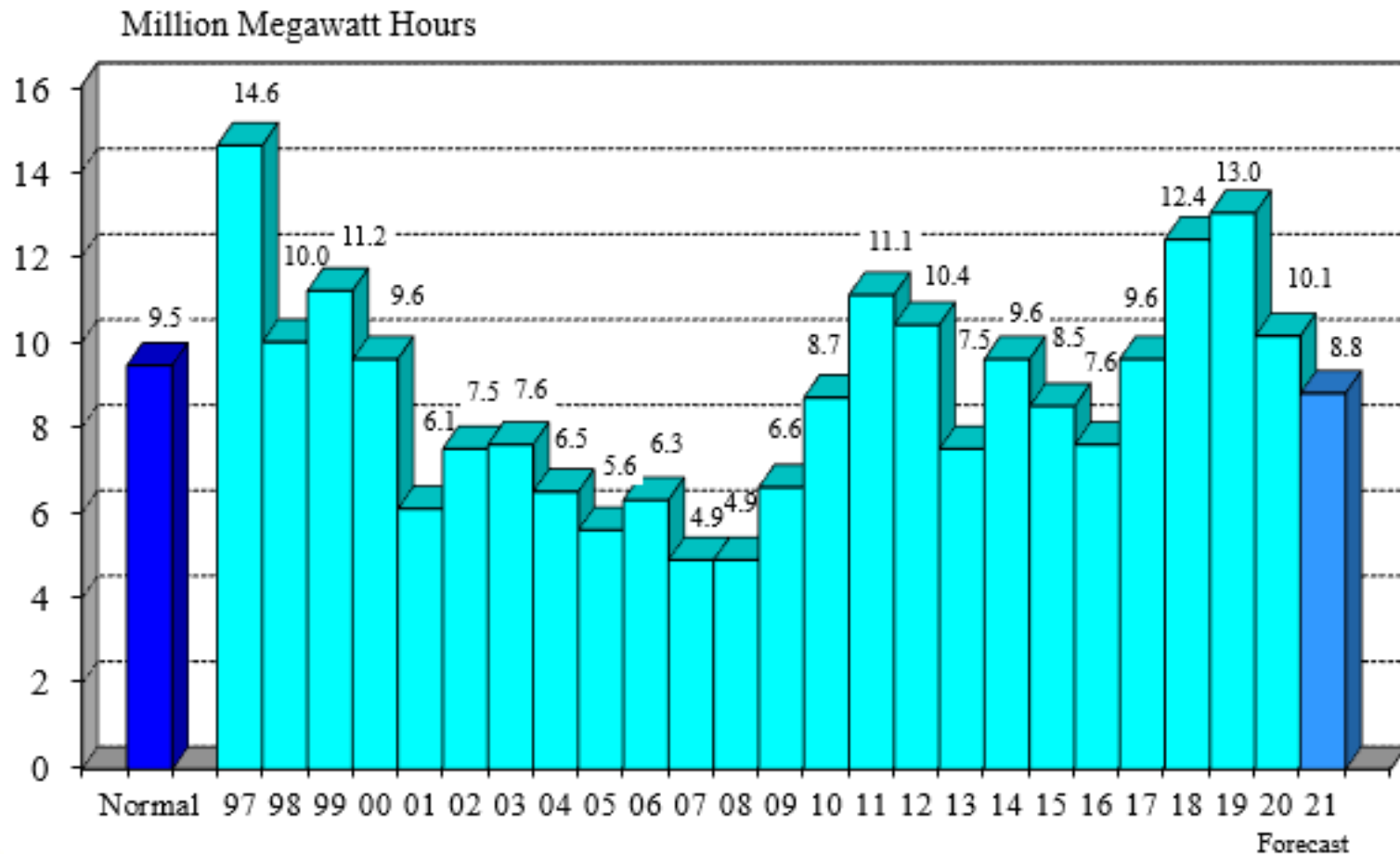


- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely



<http://go.usa.gov/3eZ73>

Pick Sloan-ED Mainstem System Generation Million Megawatt Hours



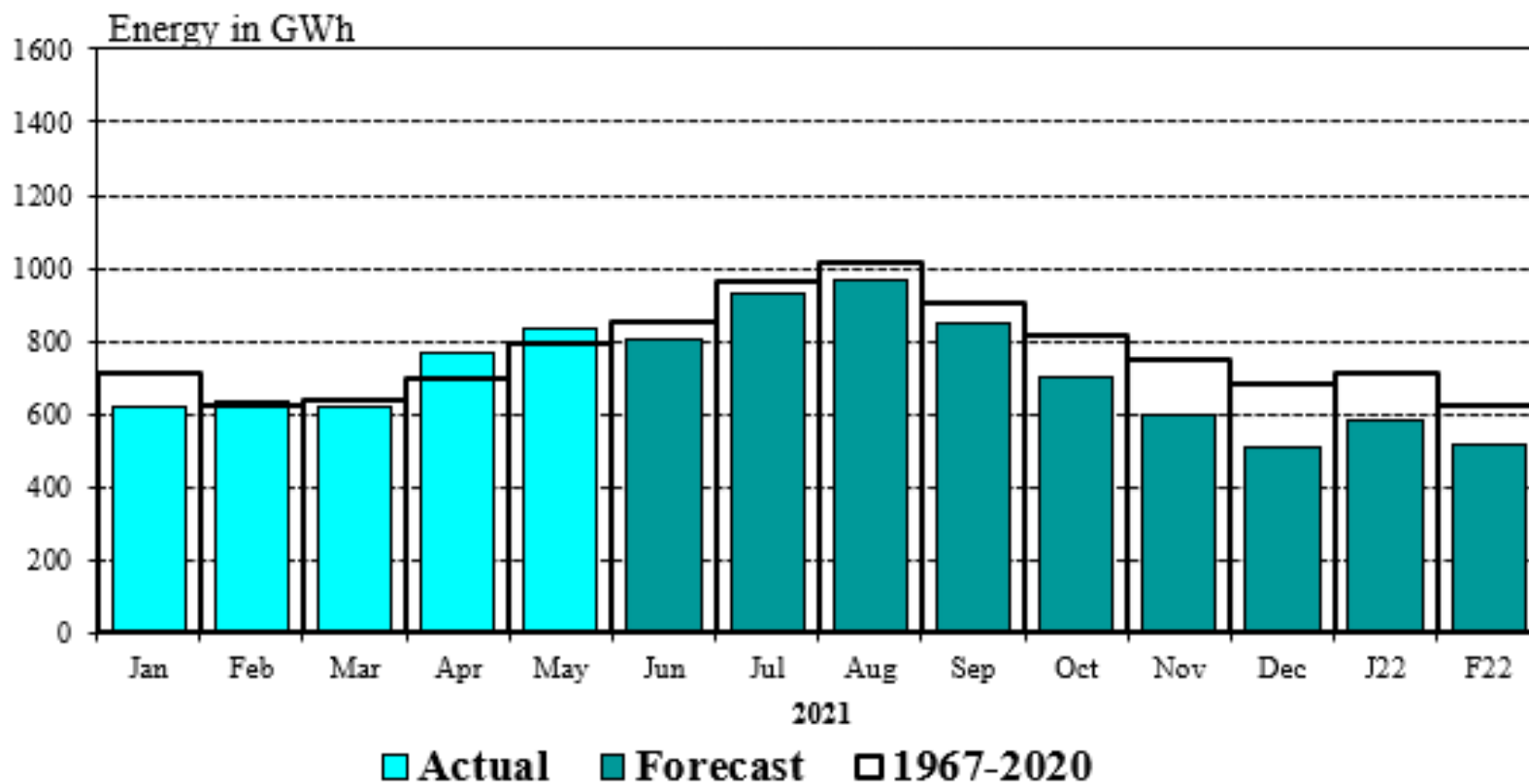
June 1, 2021 Forecast

Upper Basic: 8.8

Lower Basic: 8.9

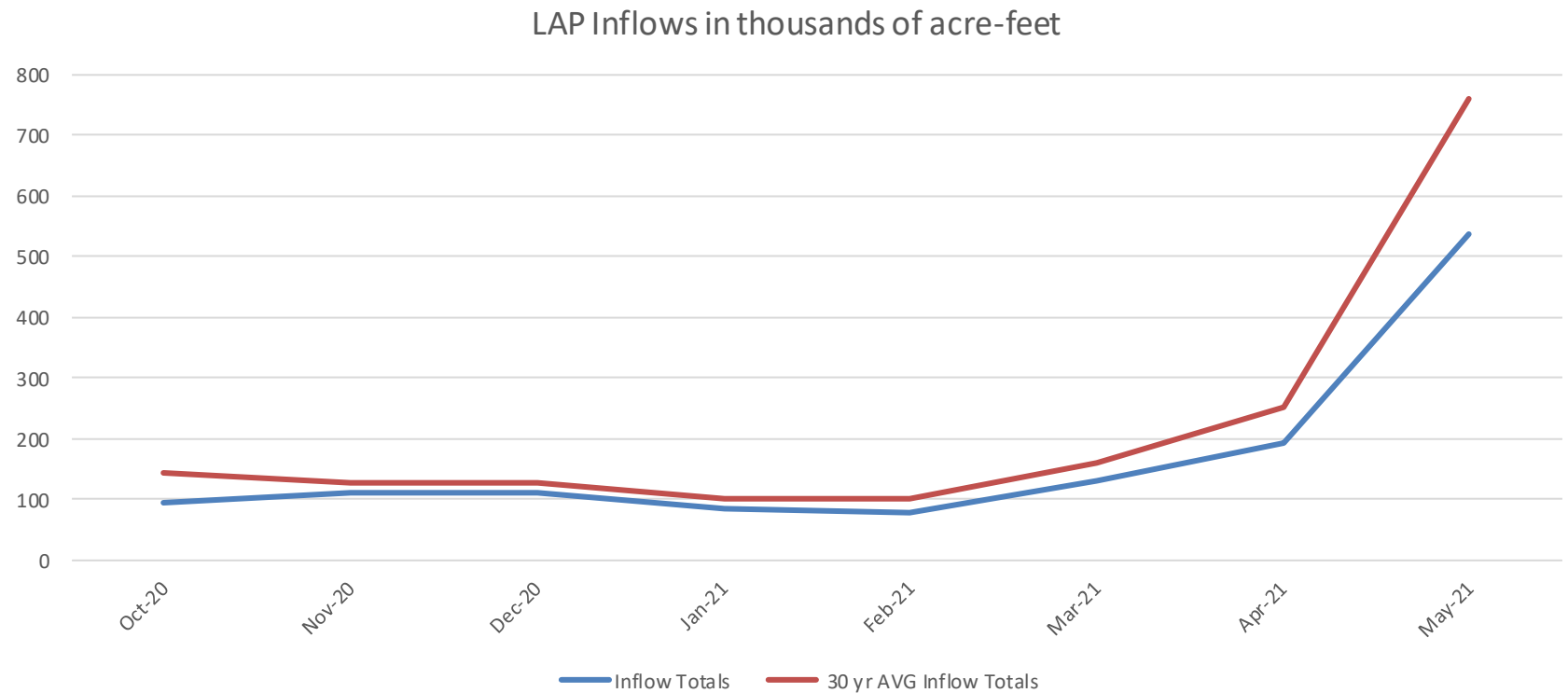
RMR Update

Missouri River Mainstem System Forecasted Energy Generation - 2021

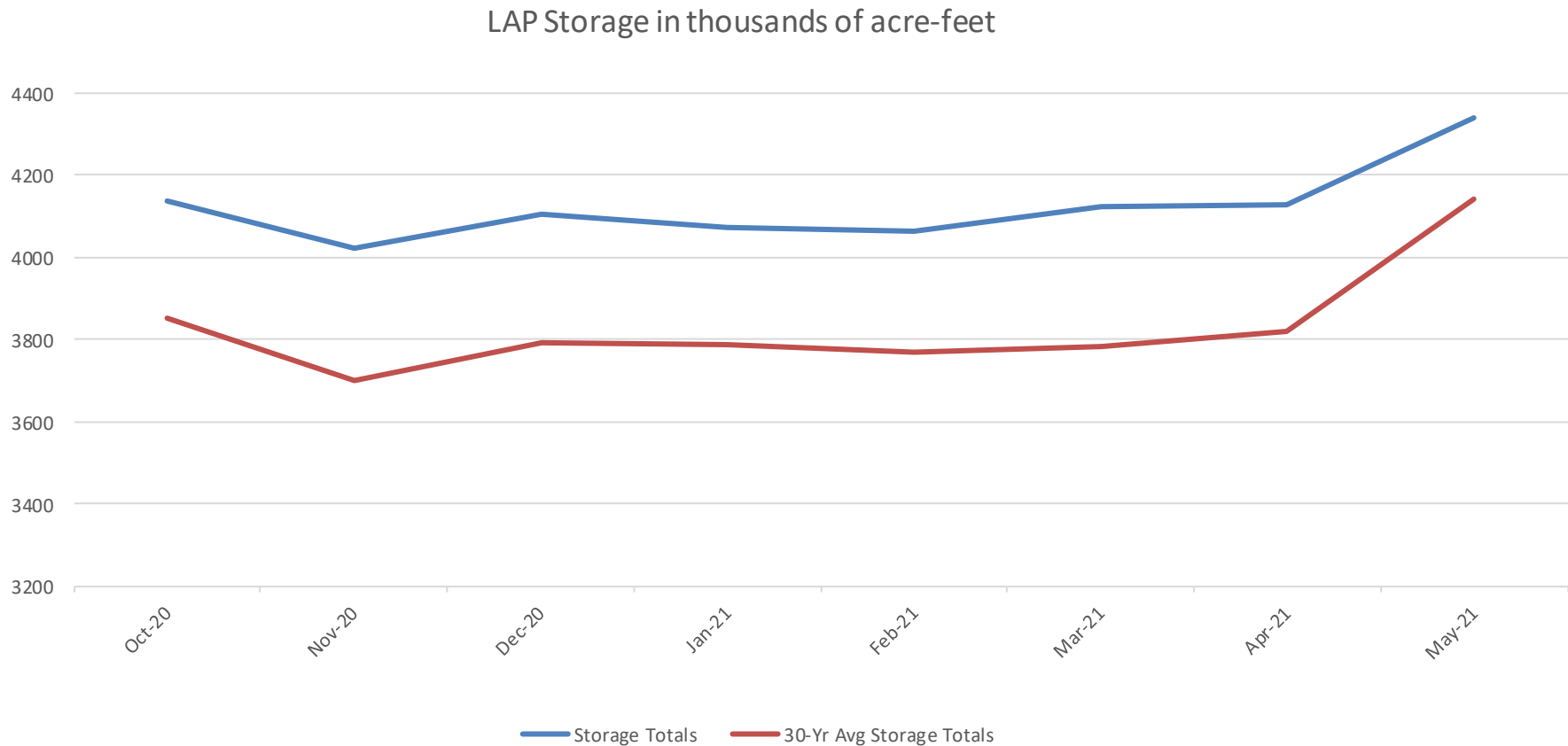


Upper Basic: 9,000 GWh
Basic: 8,800 GWh
Lower Basic: 8,900 GWh

LAP Inflow totals this year and 30 year average LAP Inflow totals (end of May 2021)



LAP Storage totals this year and 30 year average LAP Storage totals (end of May 2021)



LAP Hydrology Summary

Snow Pack

- Below average for North Platte & Big Horn Basin
- Above average for CBT

LAP Inflows

- Moderately bellow average for Big Horn Basin, North Platte & CBT

LAP Storage

- Moderately above average for North Platte, Big Horn Basin & CBT

Generation Status

- 79% of average (Oct-June)

LAP 2025 Marketing Plan Activities

LAP Marketing Plan History

- **12/21/1962:** Reclamation Allocates Power of Pick Sloan Missouri River Basin Project Western Division
- **6/23/1981:** Fryingpan-Arkansas Project Final Power Marketing Plan
- **1/31/1986:** Post-1989 LAP General Power Marketing and Allocation Criteria
 - Integrated PSMBP-WD and Fry-Ark
 - Extended allocations to existing PSMBP-WD Customer
 - Expanding marketing area into Kansas
 - Established initial contracting period from 10/1/1989 to 9/1/2004
- **10/20/1995:** Energy Planning and Management Program (EPAMP)
 - Extended Post-1989 contracting period through 9/30/2024
 - Establish “Resource Pools” for potential new customers
- **12/30/2013:** Final 2025 LAP Power Marketing Initiative
 - Extended Post-1989 power marketing principles through 9/30/2054

Prior LAP Resource Pool History

2004

- Up to 4% of LAP resource available October 1, 2004
- 28 MW of capacity in summer season and 24 MW of capacity in winter season
- Allocated among 6 Native American allottees and 20 non-Native American allottees

2009

- Up to 1% of LAP resource available October 1, 2009
- 6.9 MW of capacity in summer season and 6.1 MW of capacity in winter season
- Allocated among 3 allottees

2014

- Up to 1% of the LAP resource available October 1, 2014
- 6.9 MW of capacity in summer season and 6.1 MW of capacity in winter season
- Allocated among 6 allottees

LAP 2025 Power Marketing Initiative (2025 PMI) Resource Pool Plans

- 2025 PMI provides for 3 resource pools
 - Oct 1, 2024 (2025 Resource Pool)
 - Oct 1, 2034
 - Oct 1, 2044
- WAPA has begun the process of implementing the 2025 Resource Pool:
 - Will withdraw up to 1% (approximately 6.9 MW of capacity in summer season and 6.1 MW in winter season) of the LAP long-term firm hydroelectric resource available October 1, 2024, for new preference customers

LAP 2025 Power Marketing Initiative (2025 PMI) Resource Pool Plans

- Tentatively planning publication of the Federal Register Notice announcing the 2025 Resource Pool criteria and call for applications in August 2021
- Virtual public information forum tentatively planned for early October 2021
- Receipt of written applications and completed Applicant Profile Data forms tentatively due in early November 2021
- Allocations of power to eligible new preference entities effective October 1, 2024

2025 FES Contracts Implementation

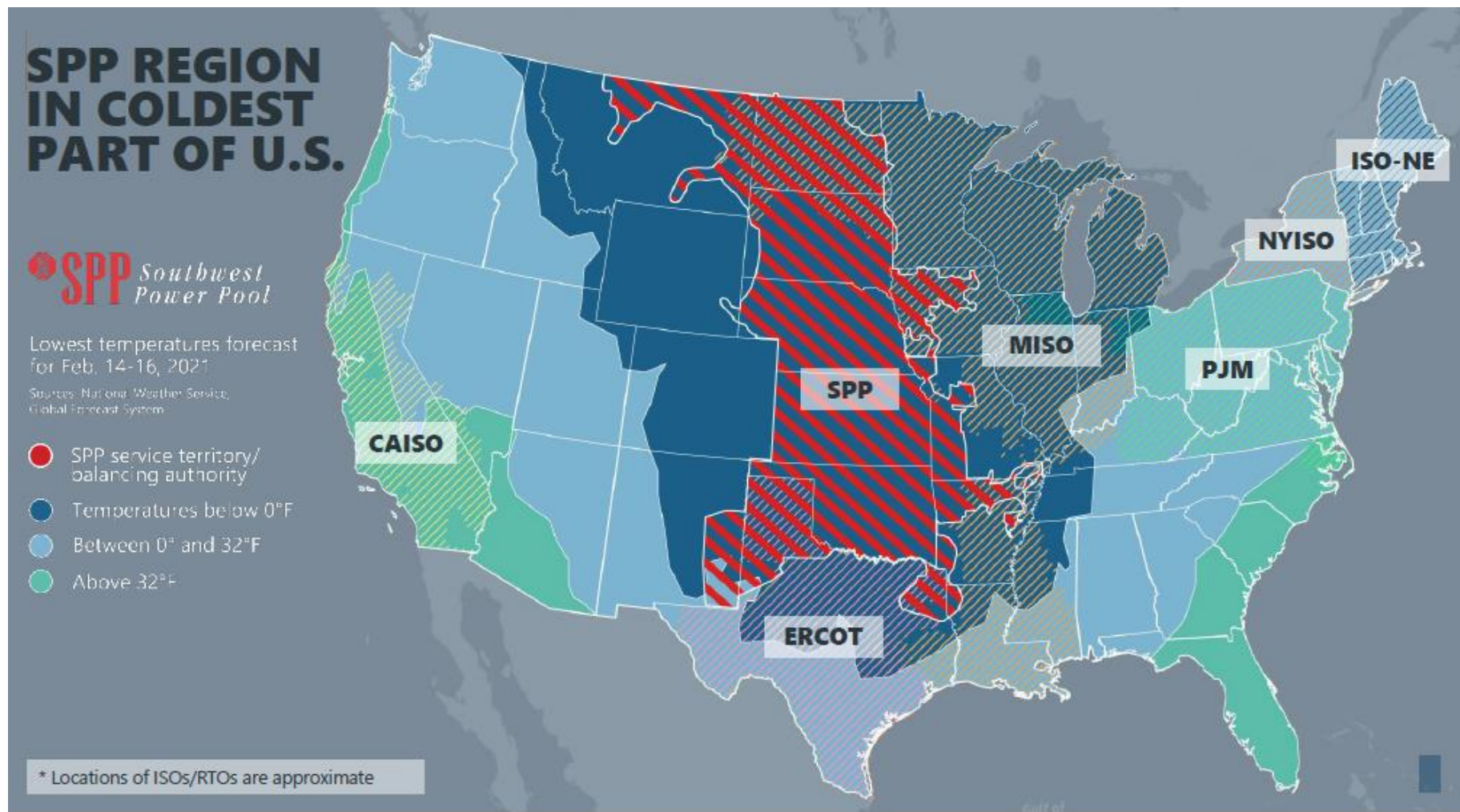
- 122 of 124 Contracts Executed for 2025 LAP FES Allocations
- WAPA starting to prepare for the implementation of the 2025 LAP FES contracts
- Several changes needed for 2025 contracts for all customers:
 - Update Exhibit Revisions to account for Resource Pool withdrawal and revised allocations
 - Update/Revise the Scheduling, Accounting, and Billing Procedures
 - Update WAPA-wide Creditworthiness procedures to current revision

2025 FES Contracts Implementation (cont.)

- Need to make additional changes/updates for specific groups:
 - For entities under WAPA's NITS with PSCo, need to determine if we will continue this arrangement
 - Tribal Benefit Crediting Arrangements
 - For entities that have assigned their contracts to other entities need to implement new assignments
 - East Side Delivery Arrangements
 - Power Interference Agreements
- Myriad of non-FES agreements with September 30, 2024, expiration date – need to determine if still needed/put new agreements in place

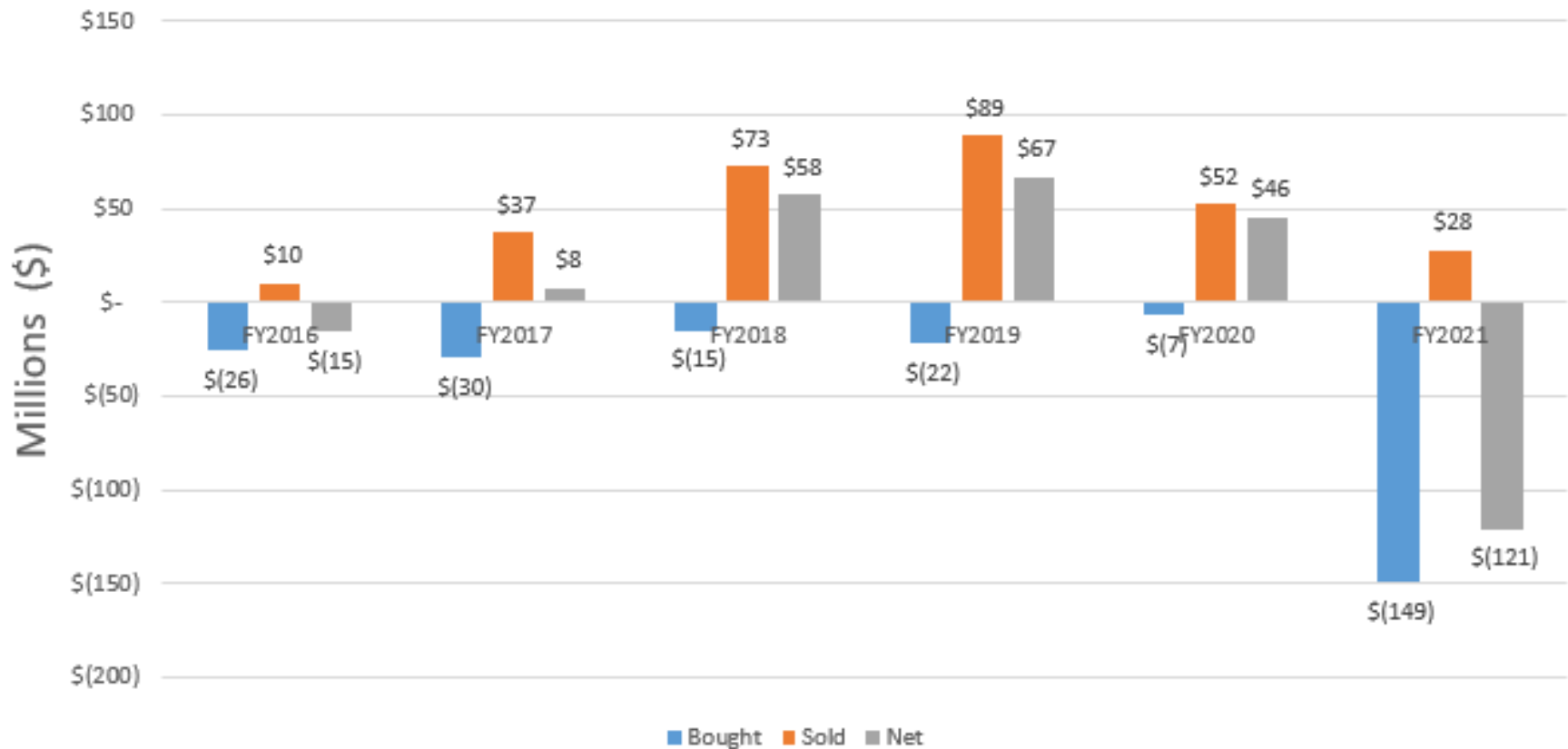
LAP Rates Outlook (LAP FES and LAPT/WACM)

Winter storm Uri



UGP marketing – energy only

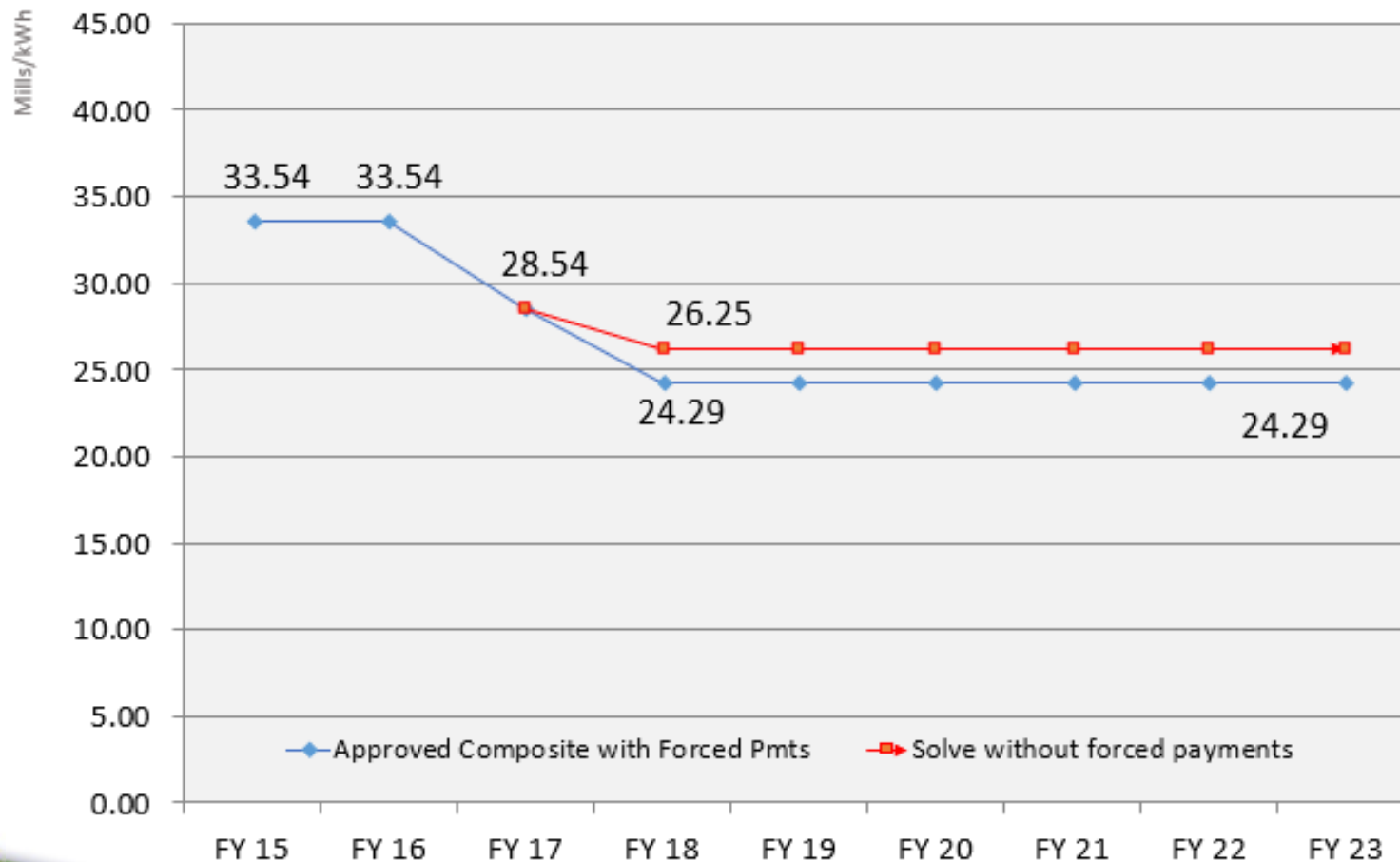
Purchase and sales as of 3/11/2020



P-SMBP rate update

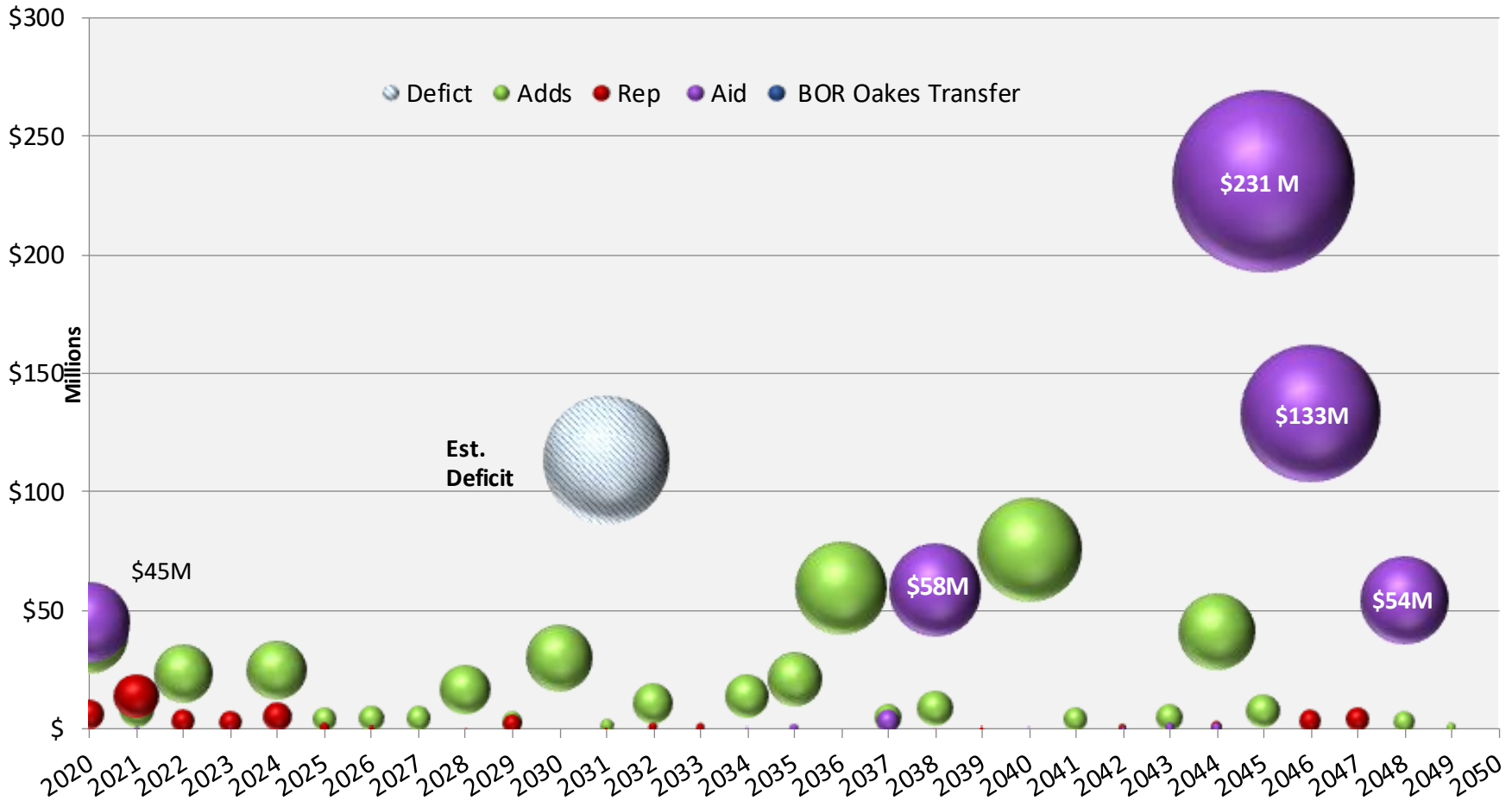
- Study set at 24.29 mills/kWh for Pick Sloan Composite rate
- *Polar Vortex Impact*
 - Pick Sloan FY21 PPW projection of \$46M, two weeks of SPP billing totaled \$138M
 - Deficit very likely this Fall
 - Too early to predict amount
 - Deficits have 10-year balloon payment
 - With average water, could potentially pay off deficit in 3 years
- Pinch Point in 2045 – \$231M Aid to Irrigation
- Drought Adder customer notification
 - Preliminary Notice in June
 - Final Notice in October

P-SMBP composite rate projection is holding



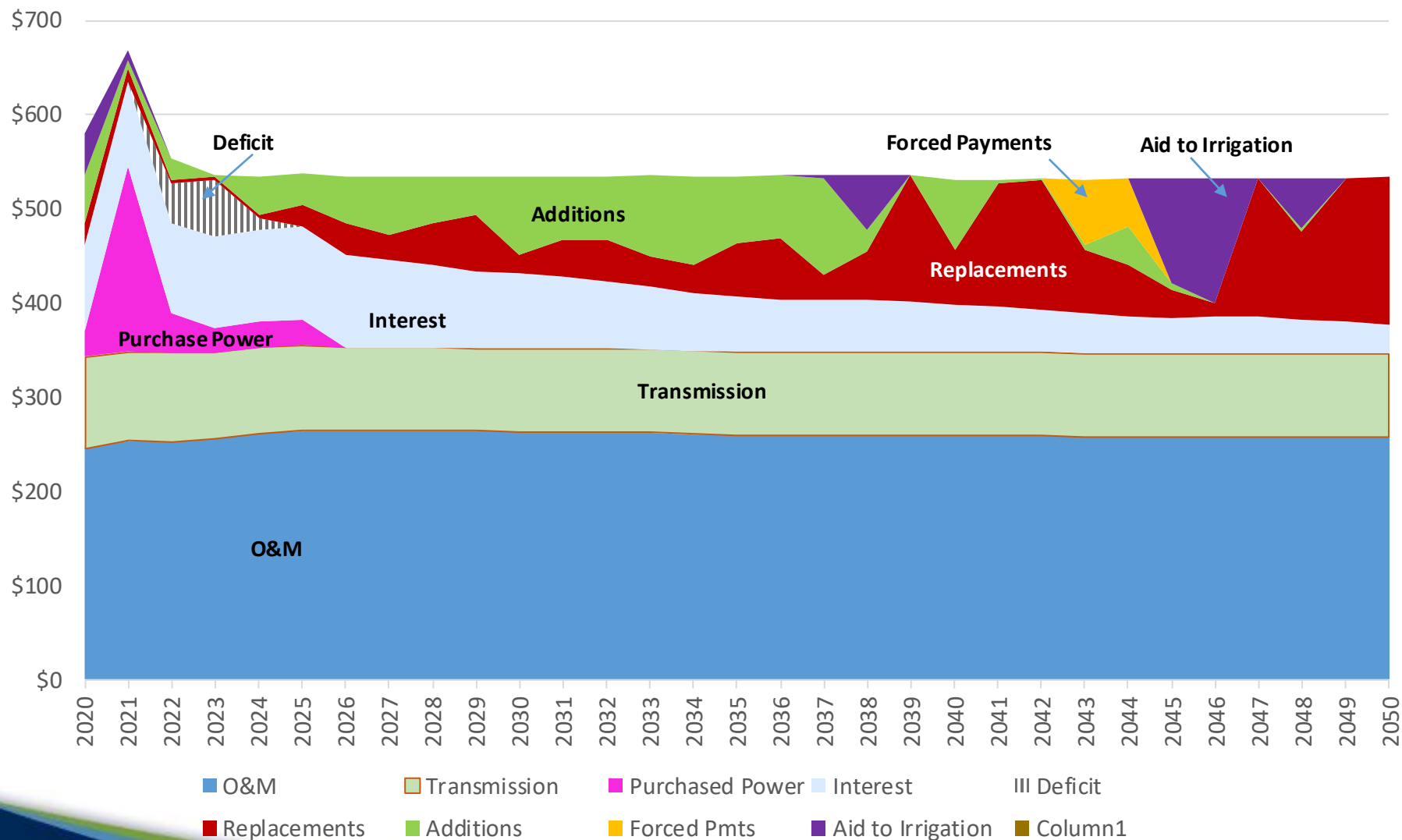
P-SMBP Preliminary 2021

PRS required payments



P-SMBP Revenue Distribution

\$ Millions



LAP FES Rate Update

- LAP Firm Electric Service Rate Schedule L-F11 became effective January 1, 2018
 - Drought Adder reduced to zero
 - LAP Composite Rate reduced 14% to 31.44 mills/kWh
 - Since 2015, rate decreased 24% from high of 41.42 mills/kWh
 - Effective through December 31, 2022
- 2022 Rates
 - No rate adjustment for LAP Base Rate
 - Monitoring Drought Adder
 - Preliminary notification letters sent to customers on June 11th
 - review resulted in no estimated change
 - Final notification letters to be sent in the fall ~ Oct

LAP FES Rate Update – Final FY20

FY20 Power Repayment Study (PRS) Updates

Fry-Ark

- Has been experiencing rate pressures related to the on-going rehabilitation efforts at Mt. Elbert Powerplant
 - BOR's FY22 work plan had \$19.4M of rehab investment to be booked by FY22.
- O&M costs increased for both BOR and WAPA
- Estimated \$3.1M increase to revenue requirement after FY22
 - Adds upward pressure of ~1.5 mills/kWh (5%) on LAP rate

Pick-Sloan WD

- Pick-Sloan PRS solved at approved rate (24.29 mills/kWh)

LAP FES Rate Update – Prelim FY21

FY21 PRS updates to include:

- FY23 workplans for WAPA, BOR, and COE
 - Fry-Ark - estimated additional revenue requirement increase of \$480k (~0.24 mills/kWh impact to LAP rate)
 - Pick-Sloan - experiencing some rate pressures due to RMR's revamped 10-year plan.
- Latest generation projections, used to determine purchase power and sales estimates
 - Costs related to Feb 2021 polar vortex will be included in Pick-Sloan
- New estimates for the WEIS Market activities (BA purchase power, sales, LAP imbalance charges, administration fee)

LAP FES Rate Update – FY 2023

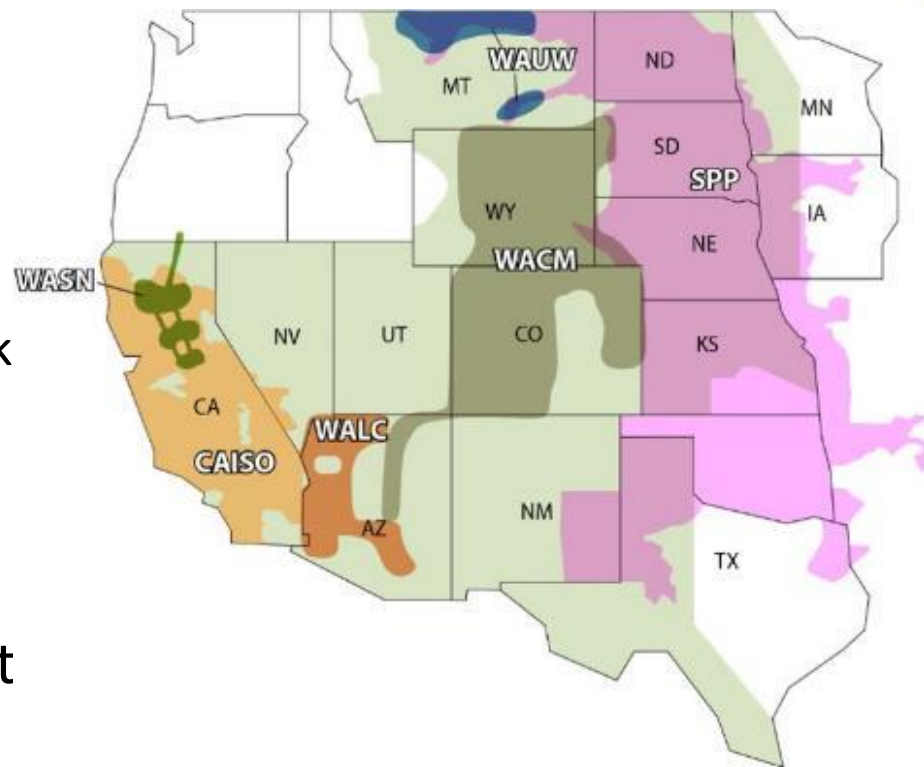
Along with UGP, initiate LAP rate adjustment process
~January 2022 to have new 5-year rates in place for
January 2023

- Pick-Sloan Western Division Component
 - Potential for no change.
- Fry-Ark Component
 - The preliminary FY21 study indicates an overall estimated increase of \$3.5M (~1.7 mills/kWh impact to LAP).

Markets Update

Markets update

- WEIS transition completed 2/1/21
- SN EIM go-live completed 3/25/21
- DSW Market Direction
 1. Study complete - findings point to entering EIM
 2. Currently getting customer feedback
 3. Senior Management review and decision
- RMR/CRSP/UGP continuing effort on SPP RTO expansion into the West

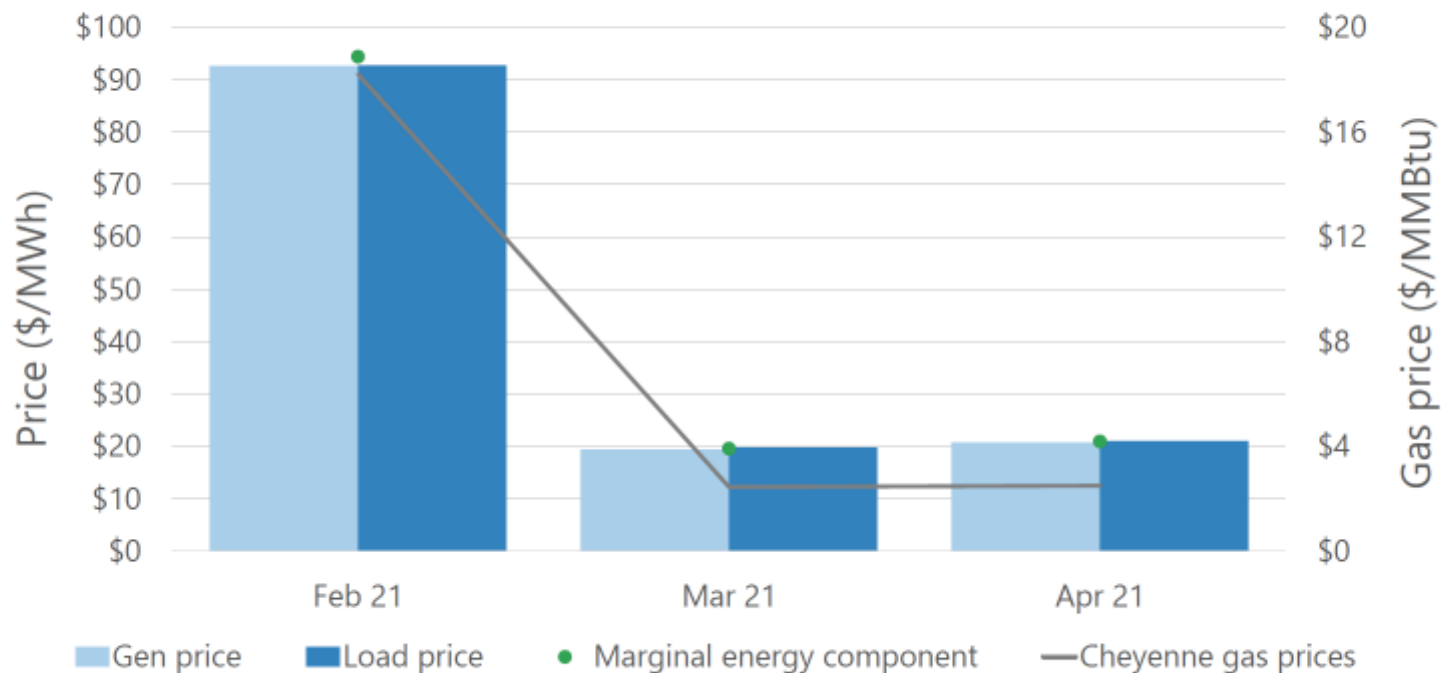


BA boundaries are approximate and for illustrative purposes only.

WEIS Market Update

Excerpt from SPP Market Monitor Report

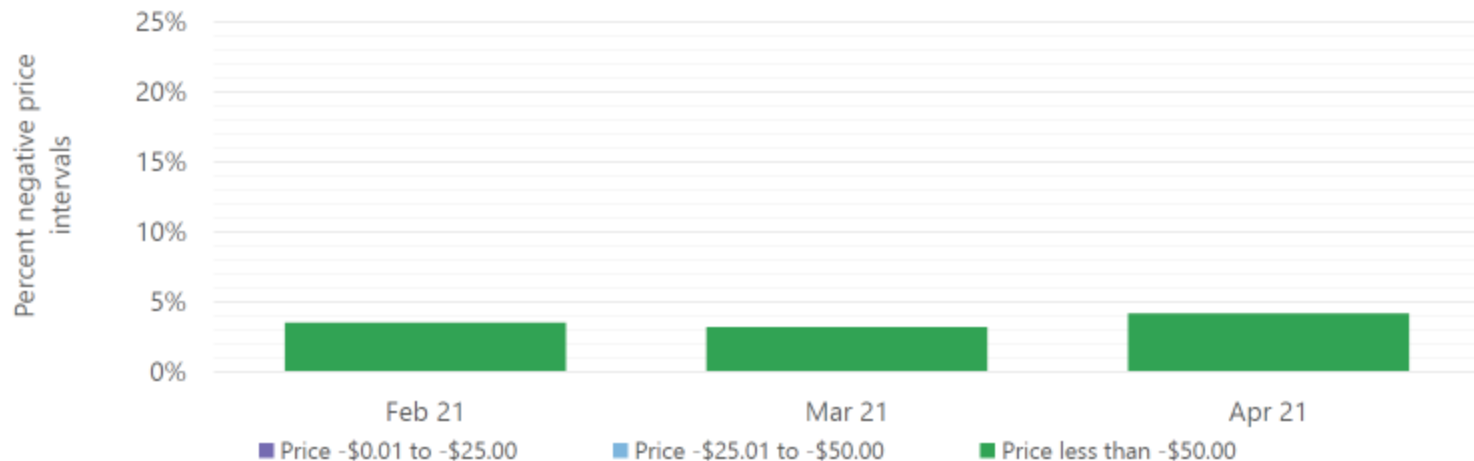
AVERAGE ENERGY PRICES, MONTHLY



WEIS Market Update

Excerpt from SPP Market Monitor Report

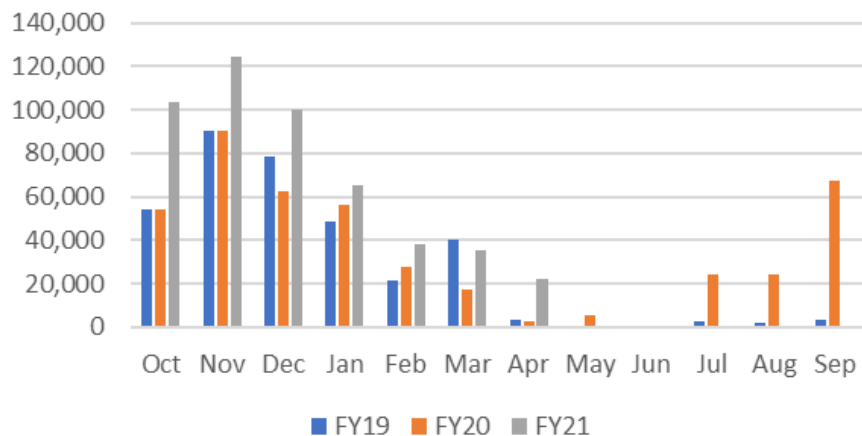
NEGATIVE PRICES



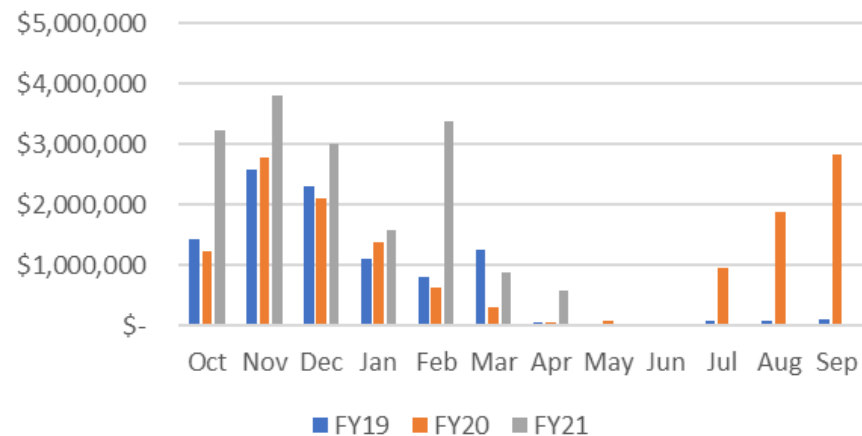
- April – negative prices occurred during 4.18 percent of load intervals, with all intervals being less than minus \$50/MWh.
- Negative price/percentage based on all load intervals.

LAP Purchases

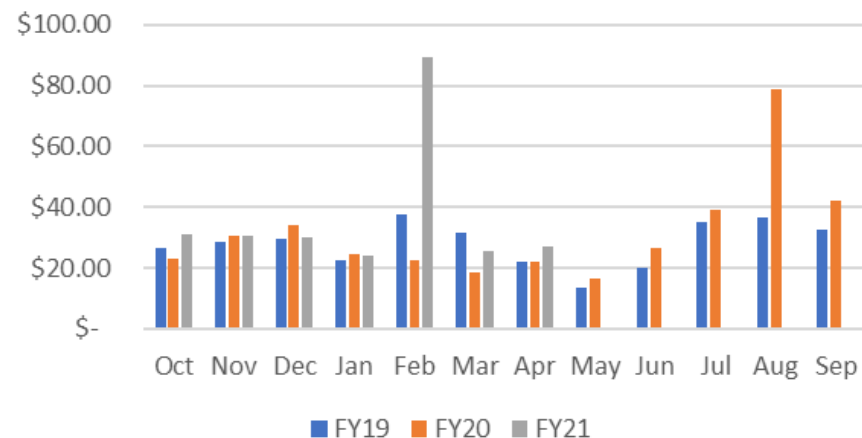
LAP Purchases (MWh)



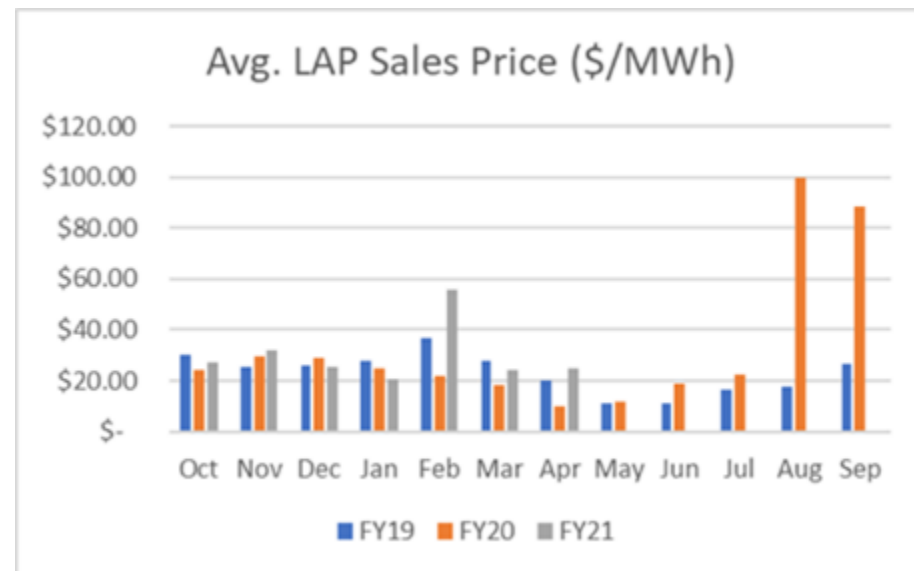
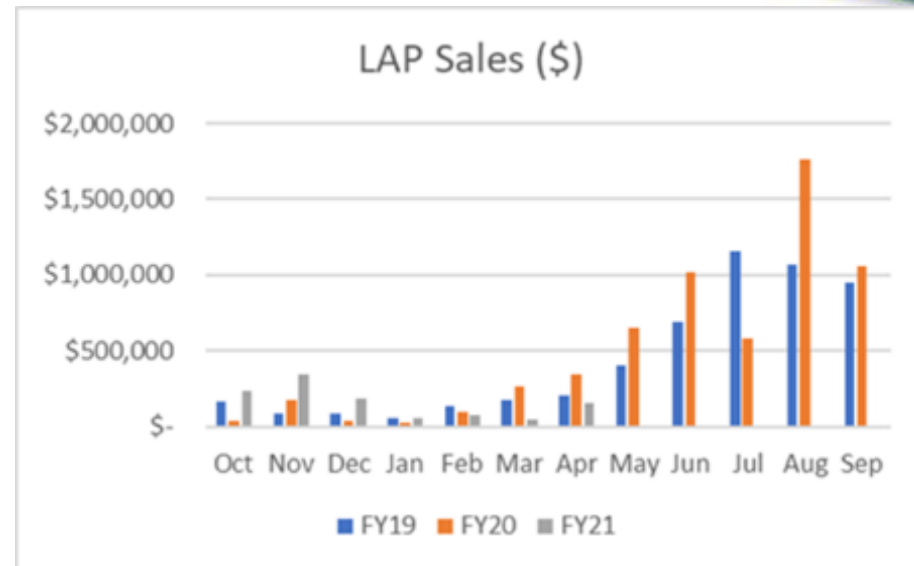
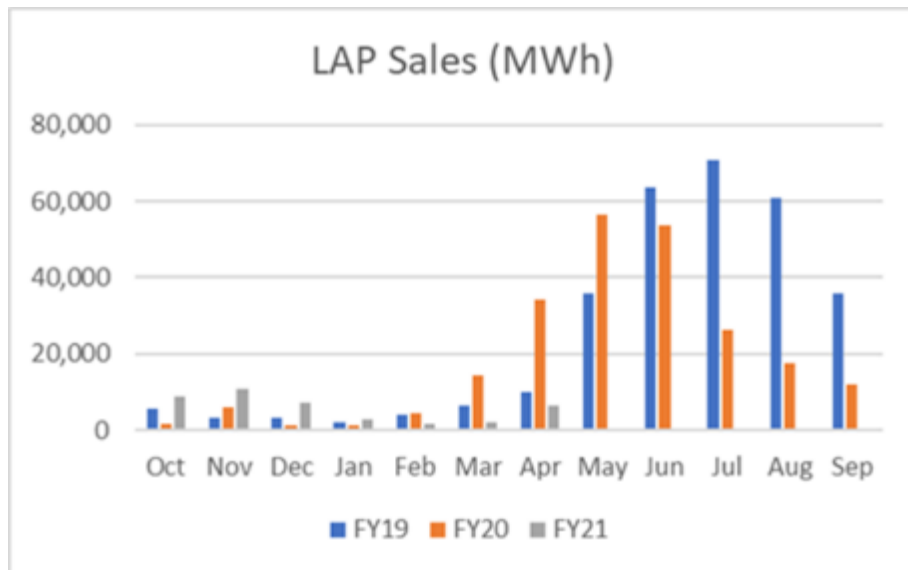
LAP Purchases (\$)



Avg. LAP Purchase Price (\$/MWh)



LAP Sales



SPP WEIS Update - Marketing

- Since February 1, 2021, go live date
 - Priority continues to be maximizing our resource to meet Firm Electric Load
 - Worked with Settlements and customers to resolve e-tags that were improperly mapped
 - EMMO working closely with RMR settlements staff on analysis of WEIS charges
 - Continuous coordination with SPP

SPP RTO Expansion into the West

- October 14, 2020, RMR and UGP committed to evaluating participation in the SPP RTO
- April 9, 2021, CRSP committed to evaluating participating in the SPP RTO
- Since January - Weekly meetings with SPP
 - Went over entire tariff, bylaws, and membership agreement (SPP governing documents)
 - Discussed in depth identified issues/needs to expand SPP into the West

SPP RTO Expansion into the West (cont)

- Minimal changes to SPP tariff envisioned
 - Terms to handle DC ties
 - Threshold of transmission definition 100kV+ rather than 60kV+ (5 factor test may still allow lower voltage)
 - Drive out transmission rate for West at average West zonal rate rather than lowest exit zone rate
 - Organizational groups to consider East/West diversity
 - Strategic Planning Committee (SPC) expanded to add one Transmission Owning Member and one Transmission Using Member

SPP RTO Expansion - Timetable

- July 27, 2021: SPP Board will consider terms and conditions document that summarizes what would be required to expand SPP into the West
- WAPA Process:
 - Potential FRN proposing WAPA expands membership with RMR and CRSP into SPP
 - Comment period
 - Decision to move forward, or end effort
- April 2022: Potential West side parties sign SPP Commitment Agreement
- October 2022: SPP files tariff modifications with FERC
- March 1, 2024: SPP expands across West footprint

Personnel Updates

Personnel updates

- Mark Gabriel – retired March 13
- Acting Administrator and CEO – Tracey LeBeau
- Acting Senior VP and UGP Regional Manager - Lloyd Linke started 6/13
- Acting Senior VP and RM Regional Manager - Tim Vigil
- Acting Senior VP and DSW Regional Manager - Jack Murray
- Acting Senior VP and CRSP Manager - Rodney Bailey



Tracey LeBeau

Personnel updates – cont.

RMR Acting Management:

- Director of Transmission and Construction – Jon Aust
- VP of Operations for RMR, CRSP and DSW – Pete Heiman
- VP of Transmission Services for RMR, CRSP and DSW – Josh Johnston (starting Monday 7/19)

Questions?

CRSP Update

Adam Arellano

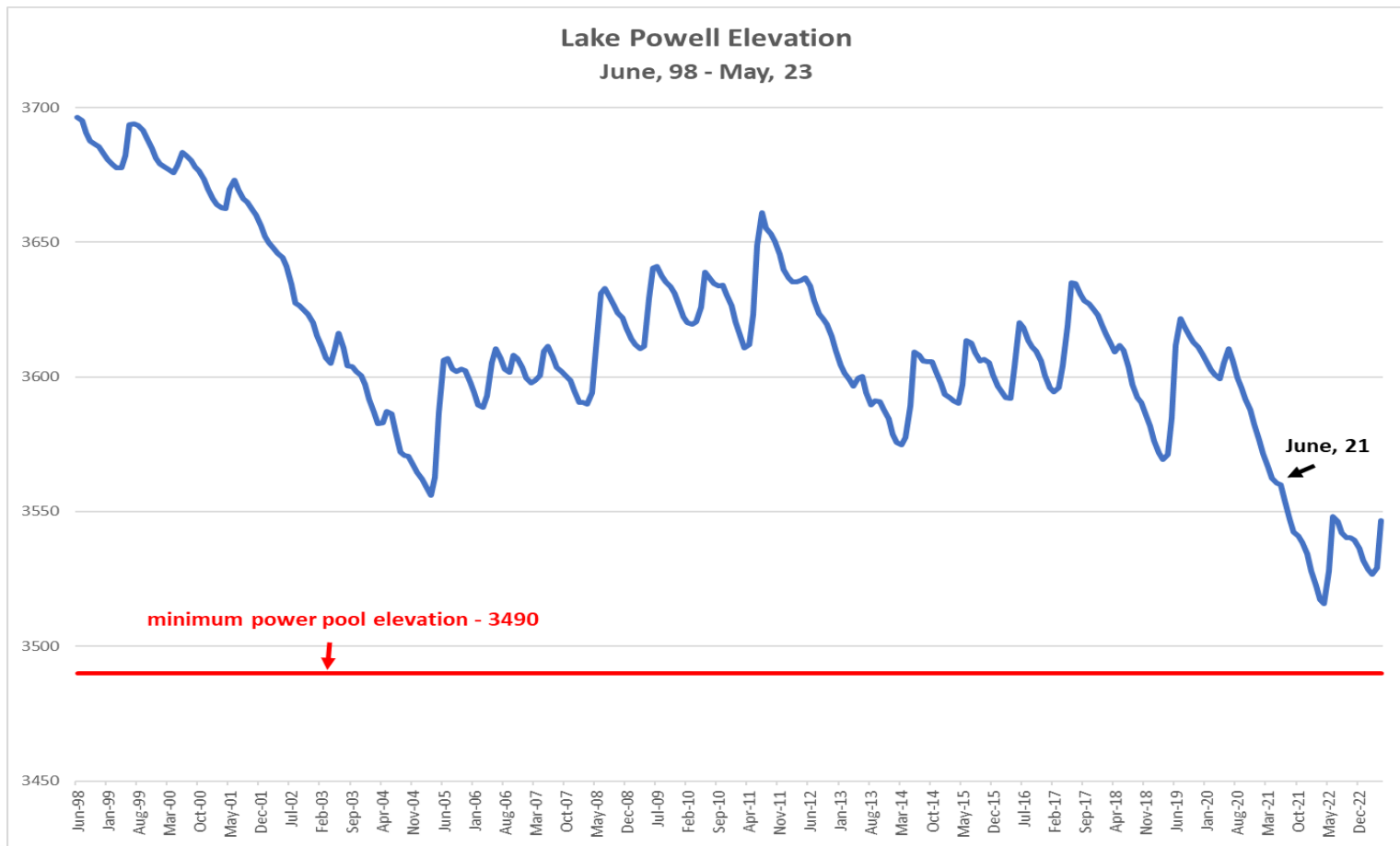
VP of Power Marketing

Colorado River Storage Project Management Center

CRSP Hydrology

- The Colorado River drought began in WY 2000
 - It is a “continuing drought” because hydrological conditions have not produced enough water to return to full reservoir conditions, even though there have been average and wet years since then
- The elevation of Lake Powell has dropped 148 feet
 - Its elevation is forecasted to fall another 14 feet by April 2022
- The elevation level that triggers Reclamation’s Drought Operations has been reached

Lake Powell Elevation Continues to Drop



Why does Lake Powell elevation matter?

Lake Powell Elevation	Month YEAR	Glen Canyon Water Release (m Acre Feet/Year - hypothetical)	Electrical Power Generated (MWhs)	Percentage Change from June 1968
3696.27	June 1998	9,000	4,303,244	
3560.57	June 2021	9,000	3,587,876	- 24%
3515.68	April 2022	9,000	3,218,045	- 25%

Since 1998, the amount of electricity that can be produced by a unit of water has decreased by 24%

24-month Study Projections

24-month Study		FY 2020	FY 2021	FY 2022	FY 2023
April 2020		\$12,332,900	\$3,175,034	\$3,767,514	
May 2020		\$14,157,485	\$4,734,673	\$5,191,732	
June 2020		\$13,847,099	\$14,036,372	\$9,356,817	
July 2020		\$13,515,689	\$15,044,458	\$8,788,441	
August 2020		\$16,173,337	\$16,173,337	\$9,543,455	
September 2020		\$16,173,337	\$23,264,568	\$15,284,372	
October 2020		\$16,173,337	\$31,466,400	\$41,616,889	
November 2020		\$16,173,337	\$46,986,054	\$45,848,459	\$3,249,249
December 2020		\$12,294,540	\$47,741,094	\$43,956,165	\$7,653,657
January 2021			\$52,337,195	\$52,891,010	\$16,635,114
February 2021			\$53,950,561	\$55,532,651	\$14,810,033
March 2021			\$60,489,186	\$58,813,783	\$18,695,662
April 2021			\$53,377,255	\$62,796,789	\$24,164,651
May 2021			\$67,891,239	\$82,940,893	\$35,316,637
June 2021			\$71,921,519	\$97,219,733	\$42,218,649

Projection for FY 2023 same as FY 2022 after seven months

Forecasted Future Prospects are Dim

At Lake Powell's current elevation, it would take about 20 years of average inflow to return it to near-full condition

Salt Lake City Area Integrated Projects (SLCA/IP) Firm Power Rate

SLCA/IP Firm Power Rate

	WAPA-190	WAPA-199	
Effective:	October 1, 2020	December 1, 2021	
Expires:	September 30, 2025	December 31, 2023	
Timing:	Final FRN	Public Info Forum	
Rate Schedule:	SLIP F-11	SLIP F-12	
Work Plan (FY)	2021	2023	
Rate Schedule:	SLIP-F11	SLIP F-12	
Purchased Power (\$/M):	3.0	97.2	19.5
Energy (mills/kWh):	11.43	16.83	12.82
Capacity (k/month):	4.85	7.15	5.45
Composite Rate (mill/kWh)	27.45	39.79	31.28

Purchased Power

	WAPA-190	WAPA-199
FY	(\$1,000)	(\$1,000)
2021	\$2,962	\$71,922
2022	\$3,668	\$19,496
2023	\$3,699	\$0
2024	\$4,072	\$0
2025	\$5,733	\$0
2026	\$0	\$0

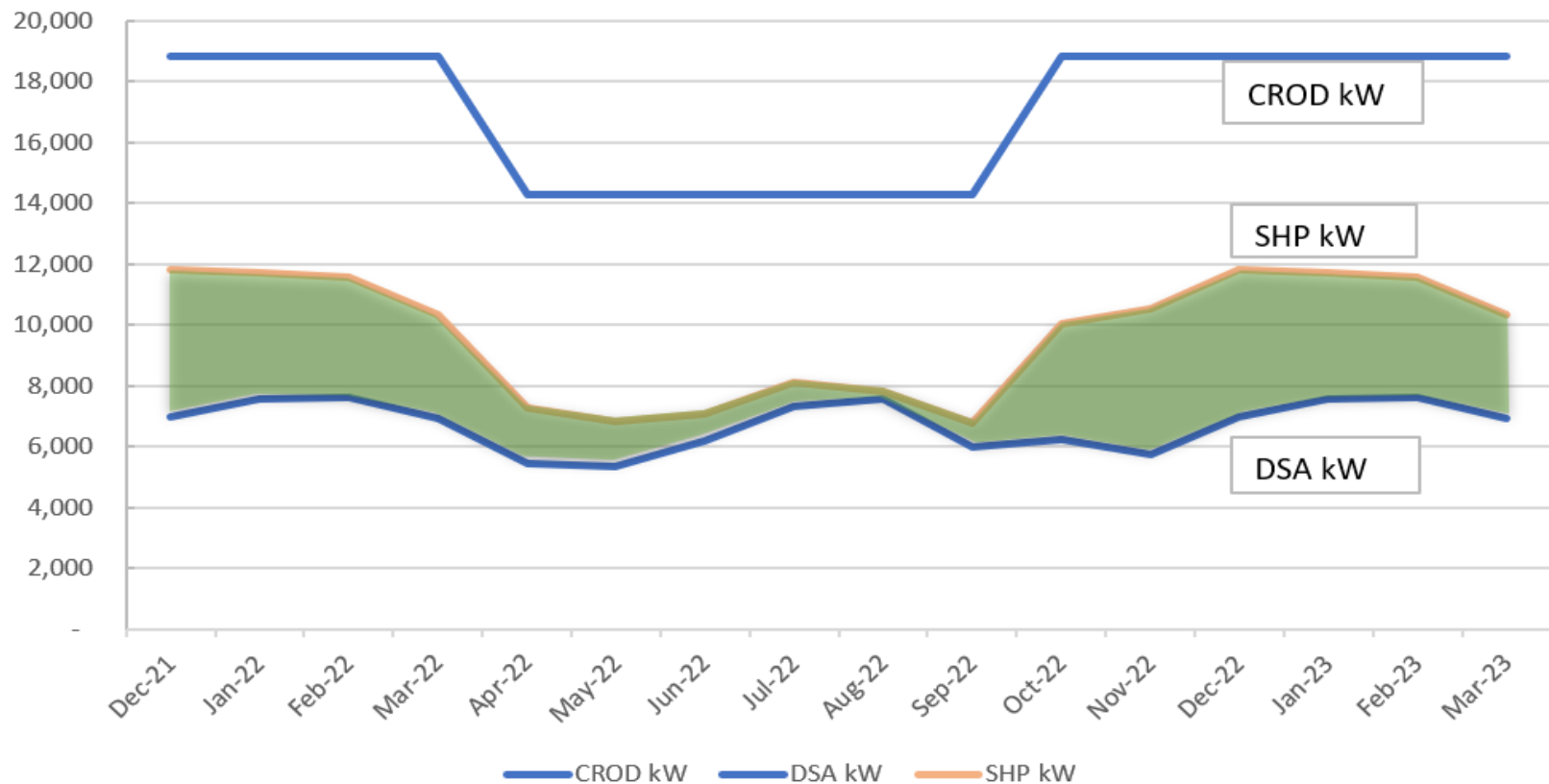
WAPA-199

- Effective December 1, 2021 – December 31, 2023
- Only 2 years to work with customers for long-term solutions
- No purchased power in the rate

Western Replacement Firming (WRF)

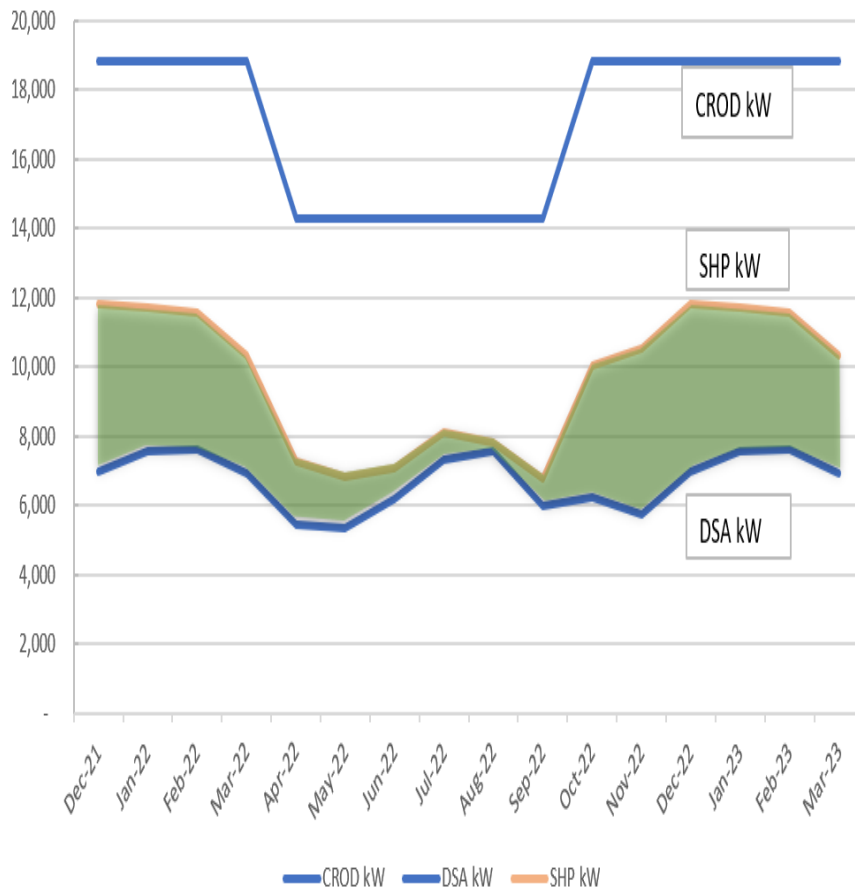
Shaded Area Shows Western Replacement Firming

December 2021 - March 2023 Capacity Availability



What is WRF?

December 2021 - March 2023 Capacity Availability



Difference between hydropower forecast (deliverable sales amount) and each customer's existing monthly Sustainable Hydropower (SHP) energy and capacity allocation.

Forecasted by WAPA on a seasonal basis for each month of the season.

- Each season, customers will choose to either receive their full seasonal SHP capacity and energy allocation, or not.
- Estimated monthly projections of market energy costs will be provided prior to each season; each customer determines if WRF makes sense financially for their organization.

Selecting full allocation will require the customer take WRF. With WRF, the customer will receive their full SHP energy and capacity allocation. Existing SHP scheduling rules will apply.

Shown on Seasonal Attachment to Exhibit A.

What will WRF cost if I request it?

Each customer's cost for WRF is its proportional share of firming costs.

- The firming cost is the expense required by WAPA to deliver the customer's SHP capacity and energy above the generation of the SLCA/IP facilities.

It will be calculated each month and assessed to those customers who request it.

- No administrative fee will be added to the seasonal Replacement Firming as proposed, nor will losses be assessed to the customers for this seasonal product.



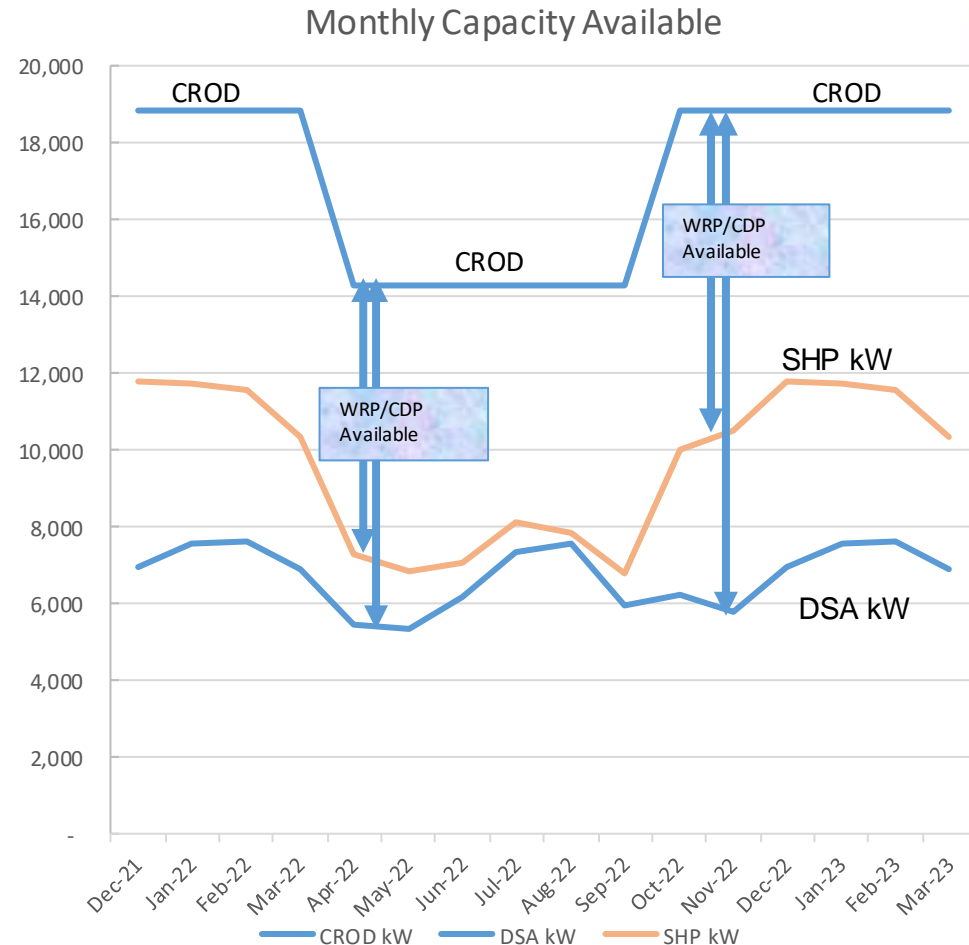
What if I do not want or need WRF?

- Customers not electing WRF will receive their proportion of WAPA's forecasted SLCA/IP hydropower. (This is the DSA amount.)
- Customers not electing WRF will be able to schedule up to the given capacity amounts and be able to schedule the given monthly allocation of energy.
- Customers only receiving hydropower will be assessed the base hydropower rate, which was discussed earlier.

Can I still participate in the Western Replacement Power (WRP) and Customer Displacement Power (CDP) programs?

Yes. The WRP and CDP programs will function as they do now.

- The amount of WRP available is difference between scheduled capacity and Contractual Rate of Delivery (CROD).
- Seasonal CDP requests can be made for the difference between scheduled capacity and CROD.
- WAPA must approve CDP requests.



Are the seasonal SLCA/IP allocations of capacity and energy a firm product?

Yes. WAPA will forecast SLCA/IP available capacity and energy seasonally.

- It is still a forecast, and forecasts are subject to error.

Over the six months of the season, capacity and energy could be less than what was forecasted. WAPA will firm up to the capacity and energy amounts.

- WAPA may have to purchase firming energy in order to meet its seasonal obligations.



What if there is more hydropower than forecasted?

The AHP program will continue and provided to customers under that program.

Timelines

What's Next

- July – Publish Update to Rate Brochure reflecting
 - June 24-month Study Purchased Power Data
 - Updated Reclamation and WAPA Work Plan Data
 - FY 2022 Transmission Rate
- July – Reply to Public Information Forum questions
- August 2021 – August 24-month Study
 - Post August 24-month Study Results to Website and notify customers to start Purchased Power Comment and Consultation Period (15 Days)
 - Calculate Tentative Final Rate
- September Annual SLCA/IP customer meeting – TBD

WAPA-199 FRN Timeline

- Proposed Rate FRN Published, June 28, 2021 ✓
- Public Information Forum, July 7, 2021 ✓
- Purchased Power Forum, July 28, 2021
- Cost Recovery Charge (CRC) Forum, July 29, 2021
- Public Comment Forum, August 11, 2021
- Comment period closes, August 31, 2021
- **Purchased Power Comment Period Closes**
- Final Rate FRN published no later than November 1, 2021
- New Rate effective December 1, 2021

Questions?